

Mitsubishi PLC

MELSEC Q series



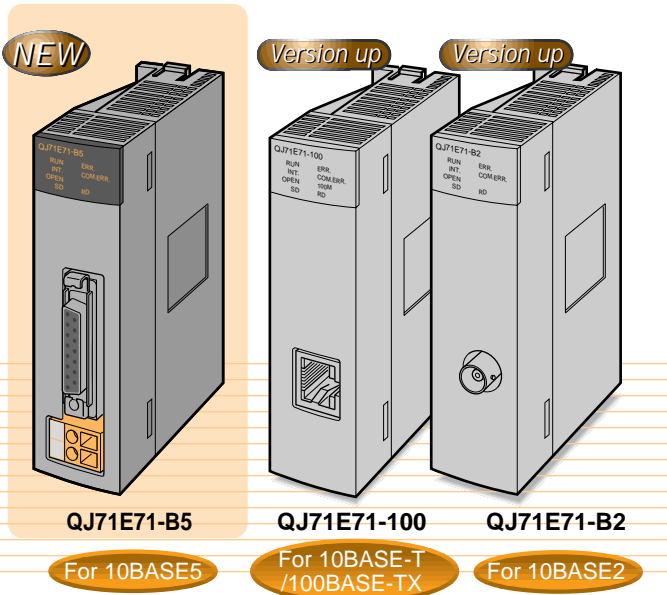
QJ71E71-B5

# Ethernet Interface Module

## '10BASE5 Dedicated' Type Q Series Ethernet Interface Module is now available

● You can now select the optimum Ethernet interface module for your system.

### Lineup of Q Series Ethernet Interface Modules



#### No.1

#### Including Web function

Q Series CPUs can be accessed via the Internet using the Web function.

#### No.2

#### Including Alive Check function 'KeepAlive'

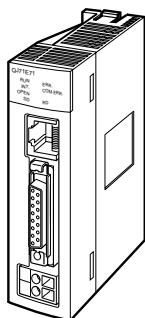
KeepAlive checks the accessibility of the application within an external device while they are connecting via the TCP/IP protocol.

#### No.3

#### Upgraded Lineup! All interface module types support the same functions.

The same functions can now be used on all the Q Series Ethernet interface modules with the introduction of the QJ71E71-B5.

\*The functions of the QJ71E71-100 and QJ71E71-B2 have also been enhanced.

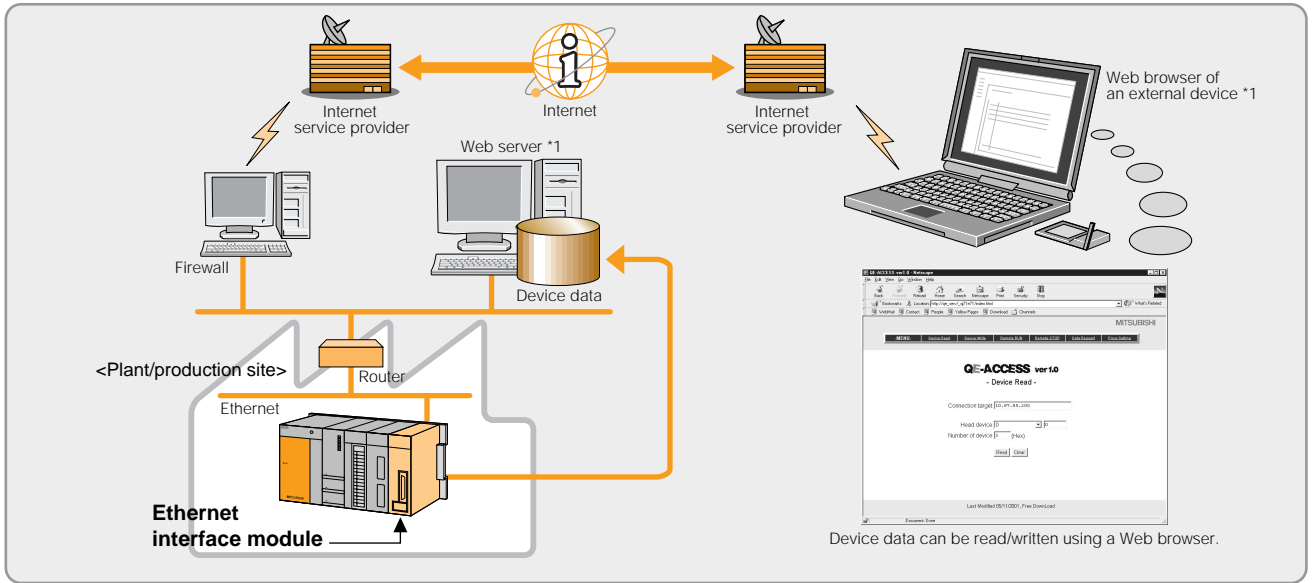


QJ71E71

\*The QJ71E71 will be discontinued with the introduction of the QJ71E71-B5.

## (1) Web function enables access to Q Series CPU via the Internet.

Using a commercially-available Web browser, the system administrator can monitor a Q Series CPU at a remote site via the Internet.



\*1: The following table shows the operating environment of Web servers and Web browsers.

### [1] Web servers

Name	Operating system
Internet Information Server 5.0(IIS5.0)	Microsoft® Windows®2000 Server Operating System
	Microsoft® Windows®2000 Professional Operating System
Internet Information Server 4.0(IIS4.0)	Microsoft® Windows®NT Server Network Operating System Version 4.0
Peer Web Services 4.0(PWS4.0)	Microsoft® Windows®NT Workstation Operating System Version 4.0
Personal Web Server 4.0(PWS4.0)	Microsoft® Windows®98 Operating System

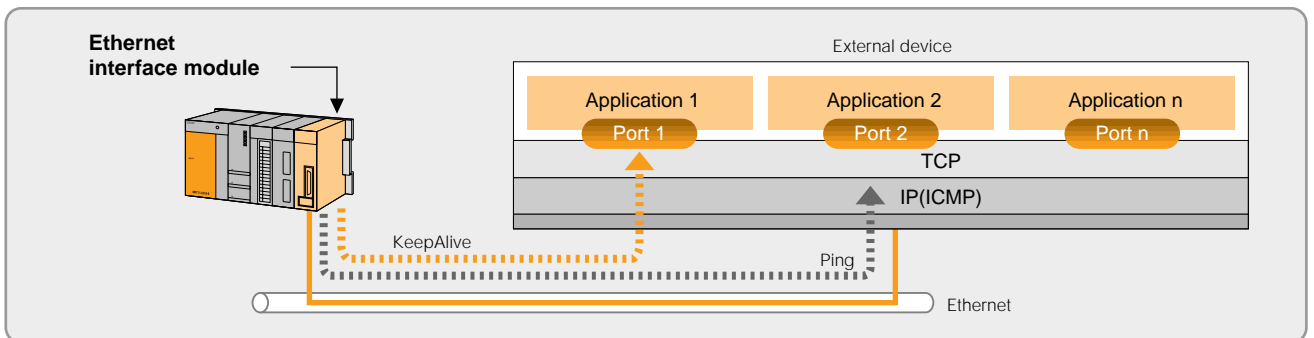
- To use the Web function, it is necessary to set up the following files on a Web server.  
Communication library, HTML file for Web browser, ASP file for PLC access.
- The communication library and sample screens (HTML file, ASP file) can be obtained from your local Mitsubishi service or representative.

### [2] Valid Web browsers

- Microsoft® Corporation Internet Explorer 4.0 or later
- Netscape® Communications Corporation Netscape® Communicator 4.05 or later

## (2) KeepAlive (Alive check function\*1) that checks the accessibility of the application within an external device.

Using this function, the status of the application stored in the external device, with which the connection was established using TCP/IP protocol, can be monitored. Therefore, the connection closing due to an error in the external device can be detected.\*2\*3



\*1: Alive check function is used to check the connection status of the external device that has not been accessed by the Ethernet interface module for a certain period. This function determines the connection status according to the result of sending a check message to the device, i.e. if the device replies to it or not.

- Alive check with KeepAlive : Sends the ACK message for checking the connection status.
- Alive check with Ping : Sends the Ping command (ICMP echo request/reply function) for checking the connection status.

\*2: Alive check with Ping is applied to the connection opened via the UDP/IP protocol.

\*3: Alive check function with Ping checks if an external device is on the Network.  
(This method cannot check if the connection is open or closed.)

# Function list

## (1) Basic Ethernet interface module functions

Function		Description
Communication using the MC protocol	QnA compatible 3E frame	Reads/writes PLC CPU data from/to an external device.
	A compatible 1E frame	
Fixed buffer communication	With procedure	Exchanges any data between the PLC CPU and the external device using the fixed buffer of the Ethernet interface module.
	Without procedure	
Random access buffer communication		Reads/writes data from multiple external devices to the Ethernet module random access buffer when requests are initiated from the external devices.
Sending/receiving e-mail		Sends/receives data via e-mail. <ul style="list-style-type: none"> <li>• Sending/receiving by the PLC CPU</li> <li>• Sending by the PLC CPU monitoring function (automatic notification function)</li> </ul>
Communication using data link instructions		Reads/writes the PLC CPU data of other station via Ethernet using data link instructions.
File transfer (FTP server function)		Files are transferred using the FTP command from the external device.
Communication using the Web function(*1)		Reads/writes the PLC CPU data via the Internet using a commercially available Web browser.

## (2) Additional Ethernet interface module functions

Function		Description
MELSECNET/H, MELSECNET/10 relay communication		In a network system on which an Ethernet and a MELSECNET/H or MELSECNET/10 coexist or in a network system that relays multiple Ethernets, data communication is performed across multiple number of networks.
Router relay communication (router relay function)		Performs data communication via a router or gateway. (The router relay function is not a function by which the Ethernet module works as a router.)
Connection status check of external device (Alive check function)	Alive check with Ping	Determines the connection status according to the result of sending the Ping command (ICMP Echo Request/Reply function) to an external device, i.e. if the device replies to it or not.
	Alive check with KeepAlive(*2)	Determines the connection status according to the result of sending the ACK message to an external device, i.e. if the device replies to it or not.
Communication via pairing open		Pairs the sending port and receiving port together though fixed buffer communication, with open processing being initiated only once.
Communication via automatic open UDP port		Enables communication after the station in which an Ethernet module is mounted has been started. (Open/close processing by sequence programs is not required.)
Remote password check		Prevents unauthorized access by a remote user to a QCPU.
Simultaneous broadcast		Sends/receives data for all external devices on the same Ethernet as for the Ethernet module in data communication via UDP/IP.
Connection with MELSOFT products and GOT (GX Developer, MX Component)		Communicates with GOT and MELSOFT products such as GX Developer, MX Component via TCP/IP. (Achieving simultaneous communication with multiple MELSOFT products and GOTs.)

\*1: New function (applicable for the QJ71E71-B5 and the QJ71E71-B2 with first 5 digits of serial number "05051" or later, as this function is already supported by the QJ71E71-100.)

\*2: New function (applicable for the QJ71E71-B5 and the QJ71E71-B2, QJ71E71-100 with first 5 digits of serial number "05051" or later.)

## Performance Specifications

### (1) Transmission and Interface Specifications

Item		Specifications				
		QJ71E71-100 <small>Version up</small>		QJ71E71-B5 <small>NEW</small>	QJ71E71-B2 <small>Version up</small>	
		100BASE-TX	10BASE-T	10BASE5	10BASE2	
Transmission specifications	Data transmission speed	100Mbps		10Mbps		
	Communication mode	Full-duplex/Half-duplex		Half-duplex		
	Transmission method	Base band				
	Maximum node-to-node distance	-		2500 m (8202.10 ft.)	925 m (3034.77 ft.)	
	Maximum segment length	100 m (328.08 ft.) (*1)		500 m (1640.42 ft.)	185 m (606.96 ft.)	
	Maximum number of nodes/connection	Cascade connection Maximum 2 stages	Cascade connection Maximum 4 stages	100 units/ segment		30 units/ segment
	Interval between the minimum nodes	-		2.5 m (8.20 ft.)	0.5 m (1.64 ft.)	
Transmission data storage memory	Number of simultaneously open connections allowed	16 connections (Connections usable by the sequence program)				
	Fixed buffer	1 k words x 16				
	Random access buffer	6 k words x 1				
	E-mail	Attached file	6 k words x 1			
Main text		960 words x 1				
Number of occupied I/O points		32 points/1 slot (I/O assignments: intelligent)				
5 V DC internal current consumption		0.50A	0.50A	0.60A(*3)		
12 V DC external power supply capacity (Transceiver)		-		(*2)		
External dimensions		98 (3.86 in.) (H) x 27.4 (1.08 in.) (W) x 90 (3.54 in.) (D) [mm]				
Weight		0.11 kg (0.24 lb.)	0.12 kg (0.26 lb.)	0.13 kg (0.29 lb.)(*3)		

\*1: Length between the Hub and node.

\*2: It is necessary to apply a transceiver, or a device that meets AUI cable specifications.

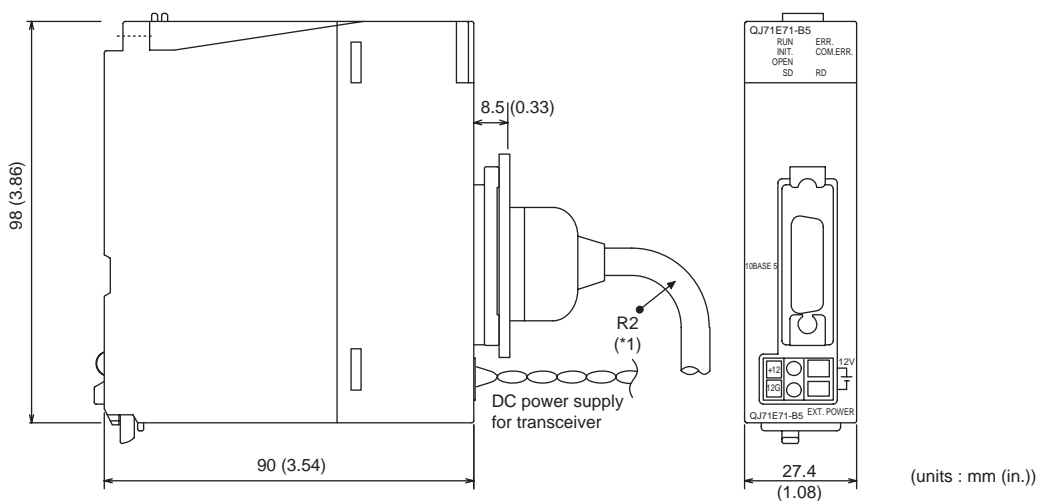
\*3: The product with first 5 digits of serial number "05049" or earlier is different as follows:

- 5V DC internal current consumption: 0.70A
- Weight: 0.14kg (0.31lb.)

### (2) E-mail Specifications

Item		Specification	
Transmission specifications Transmission and reception data	Data size	Attached file	6 k words x 1
		Main text	960 words x 1
	Data transfer method	When sending : Sends either a file as attachment or main text (selectable). When receiving : Received a file as attachment.	
	Subject	Us-ASCII format or ISO-2022-JP (Base64)	
	Attached file format	MIME format	
	MIME	Version 1.0	
	Data of attached file format	Binary/ASCII/CSV can be selected. File name: XXXX.bin (binary), XXXX.asc (ASCII), XXXX.csv (CSV) (CSV: Comma Separated Value)	
	Division of attached file	Cannot be divided (only one file can be sent/received) * If any divided files are received, only the first file will be received and the remaining files will be discarded.	
	When sending (encode)	Subject : Base64/7 bits Main text : 7 bits Attached file : Base64	
	When receiving (decode)	Subject : (Not decoded) Main text : (Cannot be received) Attached file : Base64/7 bits/8 bits/Quoted Printable * If e-mail is sent from the external device to the PLC side, specify the encoding method (Base64/7 bits/8 bits/Quoted Printable) of the attached file.	
	Encryption	N / A	
	Compression	N / A	
	Communication with mail server	SMTP (sending server) Port number = 25 POP3 (receiving server) Port number = 110	
Operation check mailer	Microsoft® Corporation Internet Explorer 5.0 (Outlook Express 5.5/Outlook Express 5) Netscape® Communications Corporation Netscape® 4.05		

## External Dimensions



\*1: The bending radius near the connector (reference value:B2) should be four times larger or more than the cable's outside diameter.

## Product List

Product name	Model
QJ71E71-B5 Ethernet Interface Module	QJ71E71-B5
QJ71E71-100 Ethernet Interface Module	QJ71E71-100
QJ71E71-B2 Ethernet Interface Module	QJ71E71-B2

## Manual

Manual name	Manual supply status	IB/SH No. (following version or later manual)	Model code
Ethernet Interface Module User's Manual (Hardware)	Included with product	IB-0800009-F	13JQ35
Q Corresponding Ethernet Interface Module User's Manual (Basic)	Sold separately	SH-0800009-F	13JL88
Q Corresponding Ethernet Interface Module User's Manual (Application)	Sold separately	SH-080010-E	13JL89
Q Corresponding Ethernet Interface Module User's Manual (Web function)	Sold separately	SH-080180-B	13JR40
Q Corresponding MELSEC Communication Protocol Reference Manual	Sold separately	SH-080008-E	13JF89

# Production Discontinuation of Ethernet Interface Module (QJ71E71)

## (1) Discontinued Model

Product name	Model
QJ71E71 Ethernet Interface Module	QJ71E71

## (2) Production Discontinuation

- Early May, 2003

## (3) Repairs Acceptance

- The final repair acceptance : Through April, 2010 (7 years after production discontinuation)

## (4) Model Selection and Transition to New Models

This section explains the model selection and transition to new models.

### (a) Model selections

Network	Old model (discontinued model)	New model (substitution model)
10BASE-T	QJ71E71	QJ71E71-100
10BASE5		QJ71E71-B5

### (b) Transition to New Model

#### [1] Module Compatibility

When replacing the old model with the new one, there is no need to modify network parameters and similar settings, since they are compatible with each other.

#### [2] Utilization of programs and parameters

The programs and various parameters for the old model are compatible with the new one.

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